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SCIENCE

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RICHARD RATHBUN

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AMERICAN science has lost one of its distinguished authorities on invertebrate zoology, and the United States National Museum its honored chief by the death of Richard Rathbun in the city of Washington early on the morning of July 16, 1918.

Richard Rathbun was born in Buffalo, N. Y., on January 25, 1852, and there studied in the public schools until he reached the age of fifteen years, when he entered the service of a firm of contractors, with which he remained for four years, acquiring a thorough knowledge of business methods, that was of special value to him during his later years.

At that time, attracted by the specimens of fossils that abound in western New York, he began the study of paleontology to which he assiduously devoted his evenings and holidays. The collection in the Museum of the Buffalo Society of Natural Sciences was made by him and he was appointed curator of that subject with charge of its collections by the society.

In 1871, he met Charles Fred. Hartt, then professor of geology at Cornell University and a pupil of the elder Agassiz, who persuaded him to give up business pursuits and devote himself to science. Young Rathbun accordingly entered Cornell and followed the regular academic course with the class of '75, specializing, however, in geology and paleontology.

The collections of Devonian and Cretaceous fossils previously obtained by Hartt in Brazil were assigned to him to work up and resulted in the publication of his first paper: "On the Devonian Brachiopoda of Ereré, Province of Pará, Brazil," in the *Bulletin of the Buffalo Society of Natural Sciences* for 1874¹ followed by a "Preliminary Report on the Cretaceous Lamellibranchs collected in the Vicinity of Pernambuco, Brazil," in the *Proceedings of*

¹ Vol. 1, pp. 236-261.

the Boston Society of Natural History for 1874.²

In the preparation of his paper on the Devonian fossils, he spent some time in Albany, N Y, where he came under the influence of James Hall, the state geologist of the great Empire state; and later while completing the paper on the Cretaceous fossils he studied at the Museum of Comparative Zoology, where he was so fortunate as to be able to attend a course of lectures by the elder Agassiz, then in the last year of his life.

Cambridge proved a congenial environment, and so instead of returning to Cornell, he continued at the Museum of Comparative Zoology from 1873 till 1875, acting also as assistant in zoology at the Boston Society of Natural History. During the summer months of those years he served as volunteer scientific assistant under Spencer F. Baird in the marine explorations of the U. S. Fish Commission on the New England coast, and thus began his connection with the Smithsonian Institution, for at that time the scientific work of the Fish Commission was practically under the direction of the Smithsonian.

In the autumn of 1875 he received the appointment of geologist to the Geological Commission of Brazil with orders to report to Professor Hartt in Rio de Janeiro, and with that service he continued until March, 1878. His first field work was in the region about the Bay of Bahia, and continued thence down the coast of the Province of the same name to near its southern end. Extensive deposits of coal said to occur in parts of that region constituted one of the special objects of the exploration, but the geology was studied in every particular, including the extensive coral reefs that lie along the coast, and also the ethnology of the Indian tribes living inland. The report on the geology and coral reefs was published in the Archives of the National Museum of Rio de Janeiro in 1878.³

Later he explored the central and southern parts of the province of São Paulo for the purpose of determining the mineral, and es-

pecially the coal, resources, and while these proved to be unimportant, he had the opportunity of studying the origin of the rich red lands where the famous coffee of that region is grown.

On returning to the United States, Mr. Rathbun brought with him complete series of the Devonian and Cretaceous fossils which have since become the property of the U. S. National Museum. It had been his hope to have monographed this interesting material, but other duties claimed his attention and with the exception of a few papers such as "A List of the Brazilian Echinoderms, with Notes on their Distribution," which he contributed to the *Transactions of the Connecticut Academy of Arts and Sciences* for 1879,⁴ the material was worked up by other scientists.

Meanwhile he had accepted from Secretary Baird the appointment of scientific assistant in the U. S. Fish Commission with which Service he then continued until 1896. At first the collections of the Fish Commission were preserved in the museum of Yale University in the custody of Professor A. E. Verrill, to whom he was detailed as assistant, serving also at that time as assistant in zoology at Yale University.

In 1880, owing to the approaching completion of the U. S. National Museum building, Mr. Rathbun was transferred from New Haven to Washington and brought with him a part of the collections which had been stored at the former place. At that time he was made curator of the department of marine invertebrates in the National Museum, an appointment which he continued to hold until 1914.

As the Fish Commission grew, much of the administrative work was assigned to Mr. Rathbun by Secretary Baird and the responsibility steadily increased until Baird's death in 1887. Meanwhile, although Professor Verrill of Yale was the nominal head of the summer investigations of the Fish Commission, during much of the time Mr. Rathbun had active charge of the laboratories, steamers, and equipment and was responsible for the general management

² Vol. 17, pp. 241-256.

³ Vol. 3, pp. 159-183.

⁴ Vol. 5, pp. 139-158.

of the work. The collections were mostly assorted under his supervision for distribution to specialists. His own studies at that time related to the commercial fisheries and to the working up of the natural history of several groups of invertebrates.

During 1880 and 1881 he was employed upon the fishery investigations of the Tenth Census and reported on the natural history of, and the fisheries for, the commercial lobsters, crabs, shrimps, corals and sponges; the marine fishing grounds of North America with the ocean temperatures of the Atlantic coast of the United States. Much of this material appeared in "The Fisheries and Fishery Industries of the United States," which was prepared through the cooperation of the Commissioner of Fisheries and the Superintendent of the Tenth Census under the direction of George Brown Goode. Mr. Rathbun's contributions to these official reports amounted to 550 quarto pages with 106 plates.

Incidental to his work at this period was his association with colleagues in the gathering of material for the Great International Fisheries Exhibition held in London in 1884. He prepared and described the "Collection of Economic Crustaceans, Worms, Echinoderms and Sponges"⁵ and he was the author of the "Descriptive Catalogue of the Collection illustrating the Scientific Investigation of the Sea and Fresh Waters."⁶

In 1891, at the request of the Secretary of State, he assisted John W. Foster in preparing material for the United States case at the Paris fur seal tribunal. He had the services of several experts, and was called to report upon the laws of all nations relating to the extra-limital fisheries for whales, hair seals, fisheries, precious corals, pearls, beche de mer, etc., and also upon the distribution and habits of these forms. Reports of progress were made daily to Secretary Foster, and the more essential parts of the completed report were incorporated in the extended brief of the American agent.

During the entire period of the fur seal

inquiries Mr. Rathbun was in charge of the investigations, except those of the first international commission. The steamer *Albatross* made yearly trips to Bering Sea with one or more experts, who were directed to study the habits of these animals, and to make an annual comparative record of their distribution and numbers by written notes and identical series of photographs. The work was also extended to the Russian islands.

The most important international commission to the Fur Seal Islands was the one despatched in 1896. This expedition, with the cooperation of the Secretary of State, was conducted by the Treasury Department. Charles S. Hamlin, then Assistant Secretary of the Treasury, was in immediate charge of the case, and Mr. Rathbun was called to be his chief adviser. The latter was asked to become the head of the American Commission, but, declining, was requested to nominate its members, which he did. Mr. Rathbun also prepared the instructions for the commission, which entered into every detail and every accusation on the part of Canada.

In December, 1892, Mr. Rathbun was appointed by President Harrison as the American representative on the Joint Commission with Great Britain to study the condition of the fisheries in the boundary waters between the United States and Canada and the sea coast waters adjacent to the two countries, and to report such measures as might be deemed necessary to insure the protection of these fisheries. No similar investigation of such magnitude and importance was ever before attempted and four years were required for its accomplishment. A large party of experts was put in the field on the part of the United States, and Canada assisted to the extent of its facilities. Mr. Rathbun personally visited every point of interest, starting with the Gulf of St. Lawrence, continuing through the fresh water systems, including the Great Lakes, and ending at Cape Flattery at the west. The report, submitted to the Department of State on December 31, 1896, was transmitted by the President to Congress and printed.

It had been Secretary Baird's intention to

⁵ Bull. 27, U. S. Nat. Mus., pp. 107-137.

⁶ *Idem*, pp. 511-622.

have Mr. Rathbun transferred to the National Museum so that he might give his entire time to the development of the department of marine invertebrates and the working up of the important collections that were constantly being received, but on the death of Baird in 1887, Dr. G. Brown Goode, who succeeded temporarily to the office of Fish Commissioner, persuaded Mr. Rathbun, in consequence of his long experience and familiarity with the work, to remain with the commission. Later, when Colonel Marshall McDonald became permanent commissioner, he was equally appreciative of Mr. Rathbun's valuable qualities and likewise was able to induce him to remain with the bureau until his own death in 1895.

In 1896, on the invitation of Secretary Langley, he accepted appointment in the Smithsonian Institution, and on January 1, 1897, began his duties as Assistant in charge of Office and Exchanges. Before the expiration of the month his abilities were so manifest and his appreciation of the conditions so complete that he was made Assistant Secretary. This place he then held until July 1, 1898, when, still continuing as Assistant Secretary, he was given charge of the National Museum, in which capacity he remained until his death.

It is almost impossible to attempt to consider in detail the many ramifications of the great work that he accomplished, and naturally the minor, but certainly not unimportant, interests are obscured by the larger events to which he gave the later years of his life.

The most important of these was the construction of the new building, in which the natural history collections are preserved. His intense interest in this undertaking, as well as his remarkable capacity for studying details, is perhaps best shown by his careful preliminary study "The United States National Museum. An Account of the Buildings occupied by the National Collections," that appeared in the annual report of the U. S. National Museum for 1903.⁷

The years of patient watching and waiting for the completion of the structure, with his perfect knowledge of every detail, can never be

satisfactorily told in words, but they are strikingly illustrated by the careful "Descriptive Account of the Natural History Buildings of the U. S. National Museum" that forms No. 80 of the Bulletin series,⁸ that he published in 1913 on the completion of the building.

These two publications show how much he gave of himself to the perfection of a work that must always remain as the greatest monument that can be reared to his painstaking genius.

With an interest equal to that shown by him in the construction of the new museum building, he undertook the development of the National Gallery of Art, an important feature of the Smithsonian Institution, which although the one mentioned first in the fundamental act, had remained dormant for lack of adequate facilities. The valuable collection of paintings and art objects bequeathed by Mrs. Harriet Lane Johnston in 1903 to the National Gallery of Art afforded an opportunity quickly appreciated by Mr. Rathbun, who, recognizing its importance, began at once to plan for the building up of a great national art gallery. In 1904, the Freer collection with its unique specimens of Whistler's art work, was tendered and accepted by the Institution, and in 1907, William T. Evans began his gifts of selected paintings by contemporary American artists, which number more than 150 canvases and an equal number of other art objects. With these and other gifts the National Gallery of Art has "attained a prominence that has brought world-wide recognition." A permanent record of this development has been left by Mr. Rathbun in Bulletin No. 70 of the U. S. National Museum, under the title of "The National Gallery of Art, Department of Fine Arts of the National Museum,"⁹ a volume remarkable for its artistic appearance, to every detail of which he gave his personal attention.

His natural taste for research and his tendency to go to the bottom of things led him to make elaborate studies on the collections, and

⁸ Pp. 1-131, with plates 1-34.

⁹ First ed., 1909, pp. 1-140, pls. 1-26; 2d ed., 1916, pp. 1-189.

⁷ Pp. 177-315, pls. 1-29.

he has left behind him a valuable series of notes from which the future historians will find little that is lacking concerning the early history of the museum. At times interesting developments presented themselves, and as typical of those his last important publication may be cited. It was "The Columbian Institute for the Promotion of Arts and Sciences. A Washington Society of 1816-1838, which established a Museum and Botanic Garden under Government Patronage" (pp. 1-85), which was published as No. 101 of the Bulletin series of the National Museum in 1917.

Subsequent to the death of Secretary Langley, in February, 1906, and until the election of his successor a year later, Mr. Rathbun served as acting secretary, and frequently during the absence of Secretary Walcott the guidance of the affairs of the parent institution was entrusted to Mr. Rathbun as acting secretary.

His bibliography numbers nearly one hundred titles, and, in addition to those already mentioned, he was the author of various scientific papers contributed to the serial publications of the Fish Commission and the National Museum, as well as a few biographies of friends and colleagues, such as Charles F. Hartt and Jerome H. Kidder; several popular articles contributed to current literature; and a series of official reports of which, notably those of the National Museum, are conspicuous evidences of his patient industry.

Intense devotion to duty was a striking trait of Mr. Rathbun's character, and so, absorbed in the details of his various activities, all of which had to do with the institution to which he gave his life, he had but little time for other interests.

Nevertheless, his scientific work gained deserved recognition from Indiana University, which in 1883 conferred upon him the degree of M.S., and in 1894 Bowdoin gave him her doctorate in science.

His colleagues found pleasure in dedicating in his honor recently discovered forms of life, and a genus of fishes, *Rathbunella* ("in recognition of his many services to science"), as well as a genus of starfish, *Rathbunaster* ("in

appreciation of his pioneer work on Pacific starfishes") and many new species of plants, batrachians, fishes and mollusks preserve his name in the literature of science.

Naturally he was a member of many scientific societies. At home he was active in the Biological Society of Washington, and he was an early member of the Philosophical Society, becoming its president in 1902; also he was a member of the Washington Academy of Sciences, and in 1905 he was chosen by his associates to be president of the Cosmos Club, an honor that he greatly appreciated.

Among the national societies he was a fellow (since 1892) of the American Association for the Advancement of Science, corresponding member of the Boston Society of Natural History, member of the American Society of Naturalists, councilor of the American Association of Museums, and a member of the American Fisheries Society.

His foreign connections included membership in the Fisheries Society of Finland, the Russian Imperial Society for the Acclimatization of Animals and Plants, and corresponding membership since 1917 in the Zoological Society of London.

Mr. Rathbun was also a permanent councilor of the International Fisheries Congress, a member of the American Committee for the Boston meeting of the International Zoological Congress, and in recent years every gathering of scientists, such as the International Congress of Applied Chemistry, the International Congress of Americanists, and the Second Pan American Scientific Congress held in Washington, placed his name on their honor lists of distinguished members.

At a memorial meeting of the various members of the staff of the Smithsonian Institution and its branches, held in the National Museum on the day of Mr. Rathbun's death and presided over by Mr. Henry White, a regent of the institution, record was made of "their profound sorrow at the loss of a sincere friend, an executive officer of marked ability, and one whose administration has had a wide influence upon the scientific institutions of the nation."

MARCUS BENJAMIN